ACE USER

Welcome to the Jupiter Ace Users Club! The Club has been formed to
provide a forum for members to exchange information on the Ace. Also
to produce,and market at reasonable prices, software in cassette-
based format. In addition, the interfacing capabilities of the Ace
need exploring, with the possibility of kits being made available
cheaply to members.

The Jupiter Ace Users Club is independent of Jupiter Cantab, the
creators of the Ace, but we hope for a friendly and informative
relationship with them.

SOFTWARE

Later in this first newsletter are details of two cassette tapes.
Tape 1 contains Peeker which will enable you to unravel ROM and RAM
in the unexpanded Ace. Doug has put in a lot of work devising this
program, so we hope you find it useful!
Tape 2 contains three Forth programs, again for the unexpanded Ace,
together with a demo program Night Rider is a simple game that
gives some idea of the Ace's games potential in its present black
and white unexpanded format. Sketch is a very useful screen layout
aid. Editor is a valuable text editor. There is a demo program to
give you an idea of these two programs. Both Sketch and Editor can
be dissected and used in your own programs.

A word about prices. We dont think that software should cost the
earth, so these two initial tapes are priced at £3.50 and £4.50
respectively. These prices include postage and packing. We would
like to provide other multi-program tapes for Club members, so send
your programs in. Royalties will be paid.

HARDWARE

Overleaf are some comments on add-on possibilities; also some
technical notes from Doug on memory.

SUBSCRIBE!

I'll sign off by saying, please subscribe. The annual subn is £7.
There will be 3 newsletters a year. Software at low cost, and add-ons
in kit form at low cost. Please send your news, contributions, queries
in. Only by sharing knowledge can we all use our new computer to its
fullest.

John Noyce,
Newsletter editor, & marketing

HOW MUCH USABLE MEMORY DOES THE UNEXPANDED ACE PROVIDE?

Roughly 88Ø bytes of DICTIONARY space to contain your program, as
well as the data stack and Z8Ø machine stack. When you edit a
word this is stored in the DICTIONARY with the old word prior to
redefine old word. It follows that more usable memory will be
available if you define several short words rather than fewer long
words.

The PAD can hold 254 user bytes, but is cleared by word load save.

736 bytes of screen can be bloaded and bsaved apart from your pro-
gram and is available for datastorage if you don't need a screen
display.

There are, apparently, 24 additional programmable characters
available, as well as the standard keyboard set.

If you are not using floating point arithmetic address 1536Ø has
a spare 19 bytes which could be used for data or machine code.

So, just under 2K of usable memory if you don't count redefined
keyboard characters, plus the odd spare bytes here and there in
RAM.

Here is a word to test for spare DICTIONARY space. It fills the
data stack with 1 s and stops with report ERROR 1. The variable X
keeps a byte count of this operation.

```
          Ø variable x
          : fill
            Ø x !
            begin
            x @ 1+ x !
            257 Ø
            until
          ;
```

Key-in fill/ response ERROR 1, then x @ 2 * 55 + . , don't forget
the full stop.

BIG CHARACTERS

The character set in RAM cannot be read from, but the character set
in ROM can. For those who want big screen characters;

          SPACE (ASCII 32) starts at 1D7A (7547)
            ©   (ASCII 127) ends at 1FFB (8187)

Doug Bollen

JUPITER ACE MEMORY MAP

Hex	Dec		
ØØØØ	Ø	8K	ROM
1FFF	8191		
2ØØØ	8192	768	↳ Beginning of screen line Ø VIDEO RAM (immediate) ↑INPUT BUFFER End screen line 23 ↴
22FF	8959		
23ØØ	8960	1	Contains boundary Ø
23Ø1	8961	1	Used for PAD string length
23Ø2	8962	254	PAD (immediate) Text workspace and load/save
23FF	9215		names.
24ØØ	9216	768	↳ Beginning of screen line Ø VIDEO RAM (wait for screen) ↑INPUT BUFFER End screen line 23 ↴
26FF	9983		
27ØØ	9984	1	Contains boundary Ø
27Ø1	9985	1	Used for PAD string length
27Ø2	9986	254	PAD (wait for screen) Text workspace and load/
27FF	1Ø239		save names.
28ØØ	1Ø24Ø	1K	CHARACTER SET (immediate)
2BFF	11263		
2CØØ	11264	1K	CHARACTER SET (wait for screen)
2FFF	12287		
3ØØØ	12288	3K	Triple copy of 3CØØ - 3FFF
3BFF	15359		
3CØØ	1536Ø	64	SYSTEM VARIABLES
3C3F	15423		
3C4Ø	15424	960	DICTIONARY plus DATA STACK ↴ ↑ Z8Ø STACK (unexpanded RAM)
3FFF	16383		
4ØØØ	16384		RAMTOP (unexpanded RAM)

RAM EXPANSION

EXPANSION LIMIT _____ ↑ Z8Ø STACK (return stack)
_____
RAMTOP

Note: VIDEO, PAD and CHARACTER SET have double addresses.

EXPANSION

MEMORY EXPANSION

Doug is looking into the 16K memory expansion, and is designing an adaptor for use with ZX81 add-ons. We hope to put this out in kit form, early next year.

IN/OUT PORT

We hope to provide software for use with the in/out port as detailed in the Ace Users handbook.

INTERFACE ZX PRINTER

No time as yet.

For all these expansion possibilities, if you're working on one of these, do get in touch.

CONTRIBUTE TO THE NEWSLETTER

To reiterate, we need your letters, articles, news, and programs.

If you have something in mind do phone me - 0273-602354

                                                John Noyce

Ps. Ian Logan, author of Understanding your ZX81/Spectrum, et al, has apparently obtained a listing of the Rom by cross-loading from the Jupiter to the Spectrum. The cassette standards are apparently identical. Any more comparisons between the two machines???